FIG. 1
(PRIOR ART)

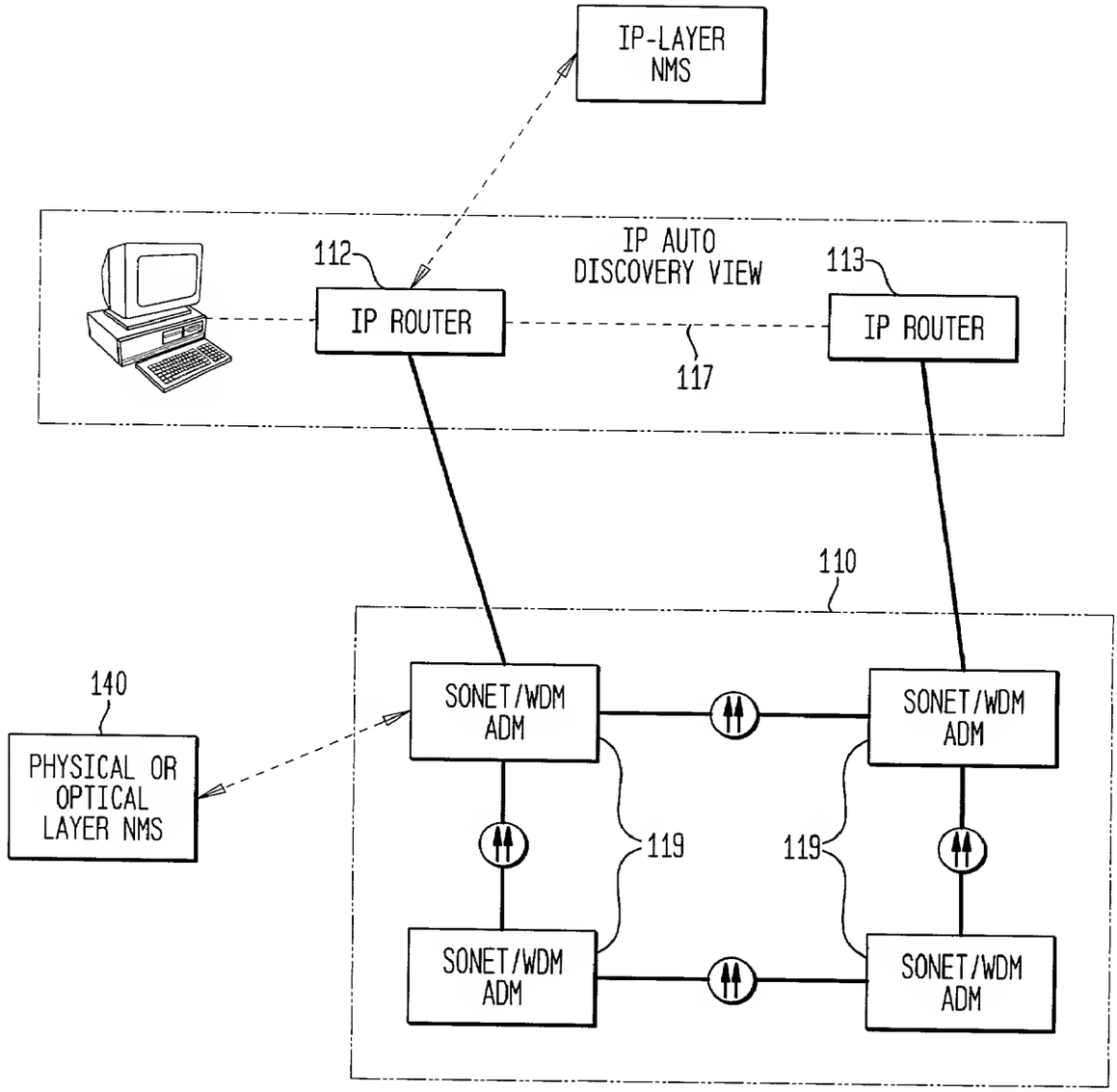


FIG. 2

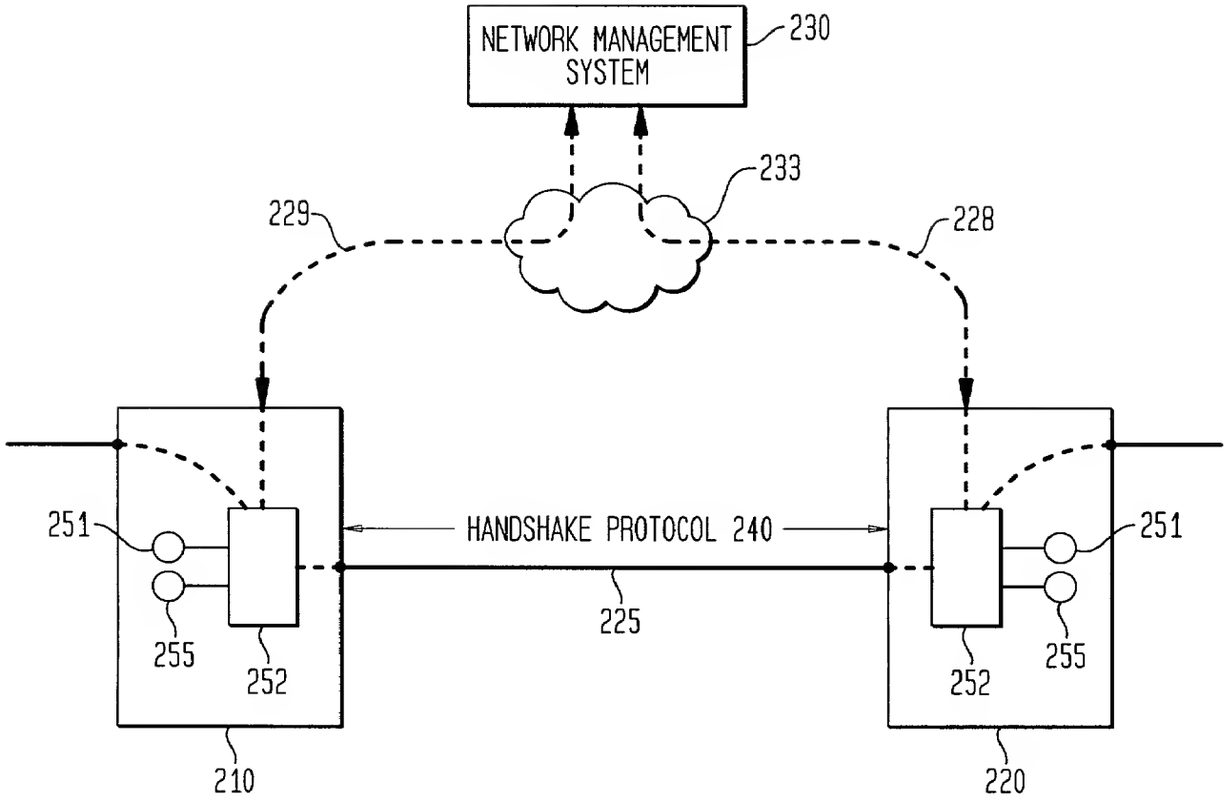

NETWORK MANAGEMENT SYSTEM
230
233
229
228
HANDSHAKE PROTOCOL 240
225
251
255
252
210
251
255
252
220

FIG. 3

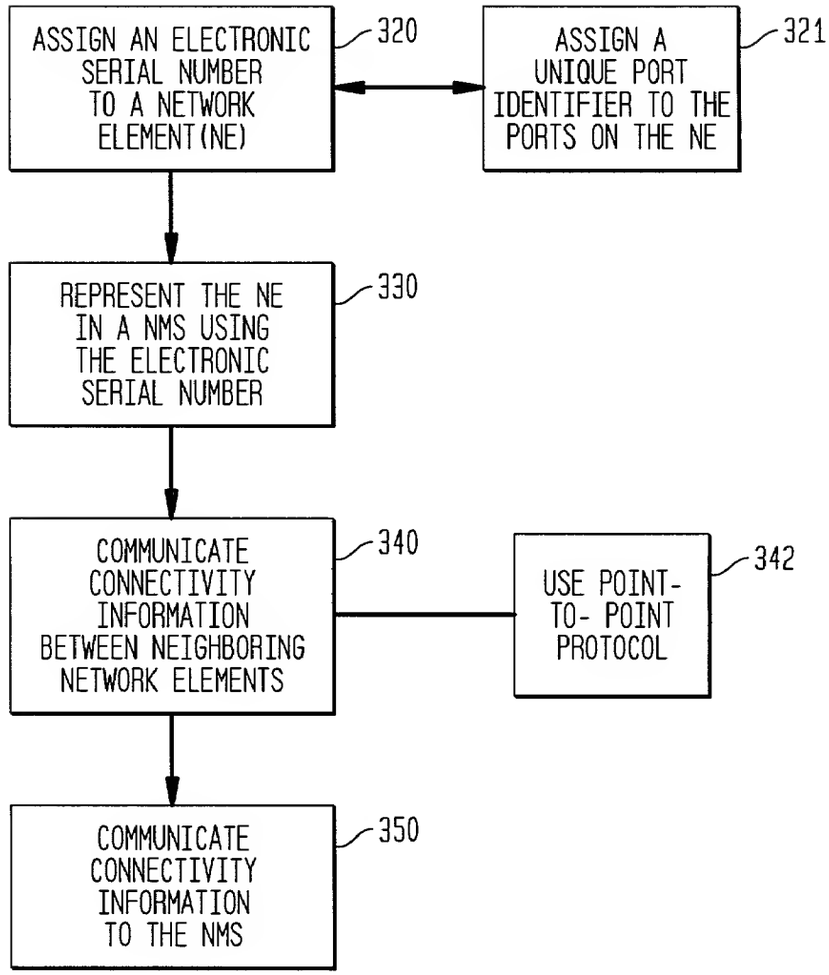

ASSIGN AN ELECTRONIC SERIAL NUMBER TO A NETWORK ELEMENT(NE)
320
ASSIGN A UNIQUE PORT IDENTIFIER TO THE PORTS ON THE NE
321
REPRESENT THE NE IN A NMS USING THE ELECTRONIC SERIAL NUMBER
330
COMMUNICATE CONNECTIVITY INFORMATION BETWEEN NEIGHBORING NETWORK ELEMENTS
340
USE POINT-TO- POINT PROTOCOL
342
COMMUNICATE CONNECTIVITY INFORMATION TO THE NMS
350

FIG. 4A

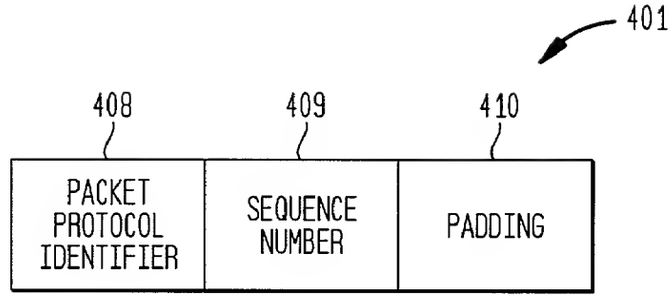

401
408
409
410
PACKET PROTOCOL IDENTIFIER
SEQUENCE NUMBER
PADDING

FIG. 4B

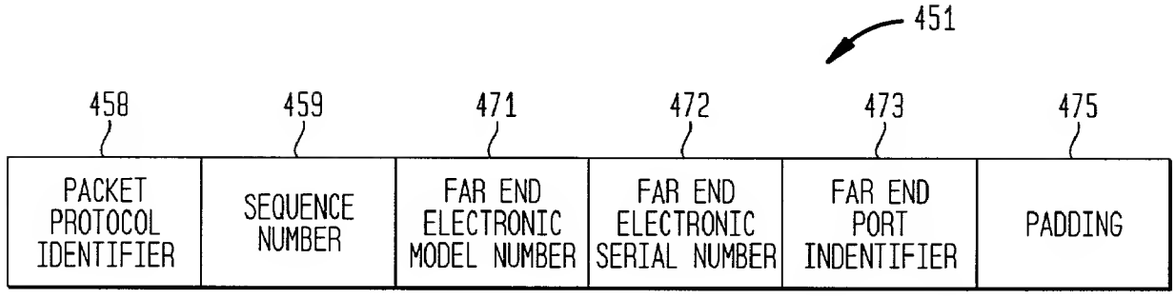

451
458
459
471
472
473
475
PACKET PROTOCOL IDENTIFIER
SEQUENCE NUMBER
FAR END ELECTRONIC MODEL NUMBER
FAR END ELECTRONIC SERIAL NUMBER
FAR END PORT INDENTIFIER
PADDING

FIG. 5A

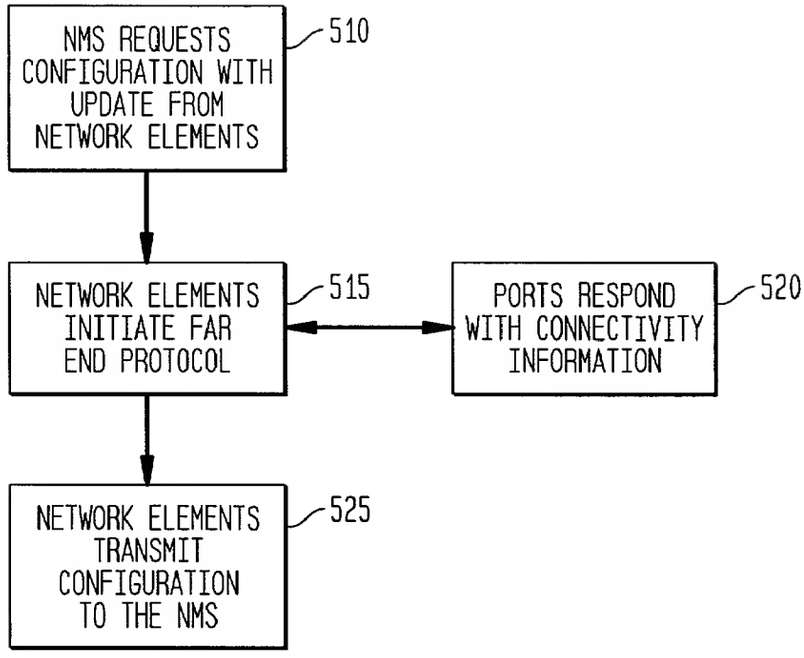

NMS REQUESTS CONFIGURATION WITH UPDATE FROM NETWORK ELEMENTS
510
NETWORK ELEMENTS INITIATE FAR END PROTOCOL
515
PORTS RESPOND WITH CONNECTIVITY INFORMATION
520
NETWORK ELEMENTS TRANSMIT CONFIGURATION TO THE NMS
525

FIG. 5B

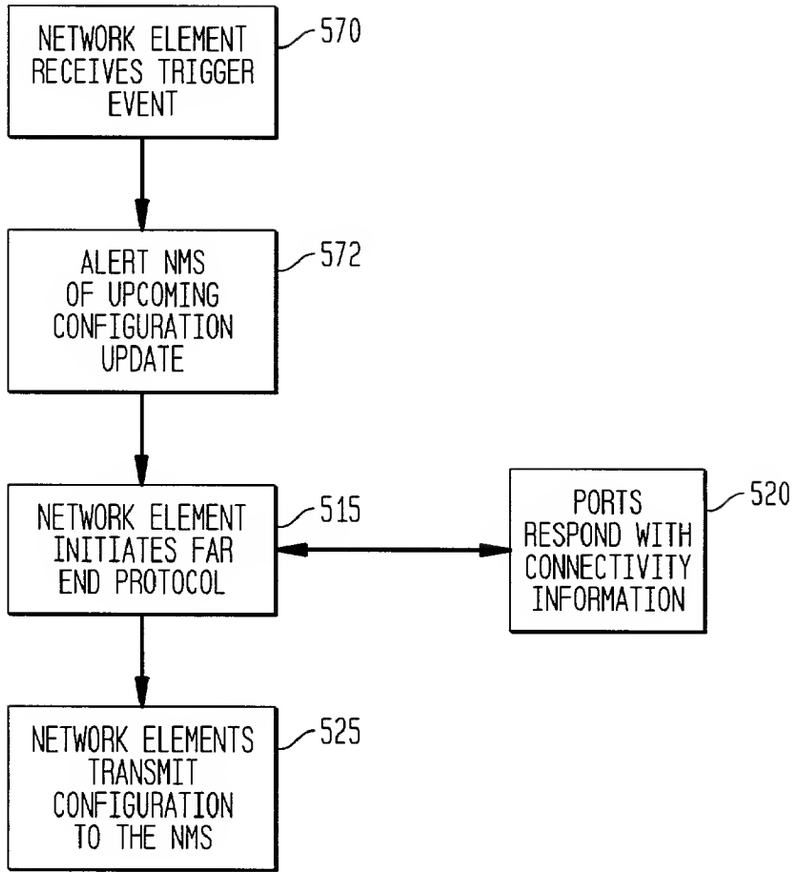
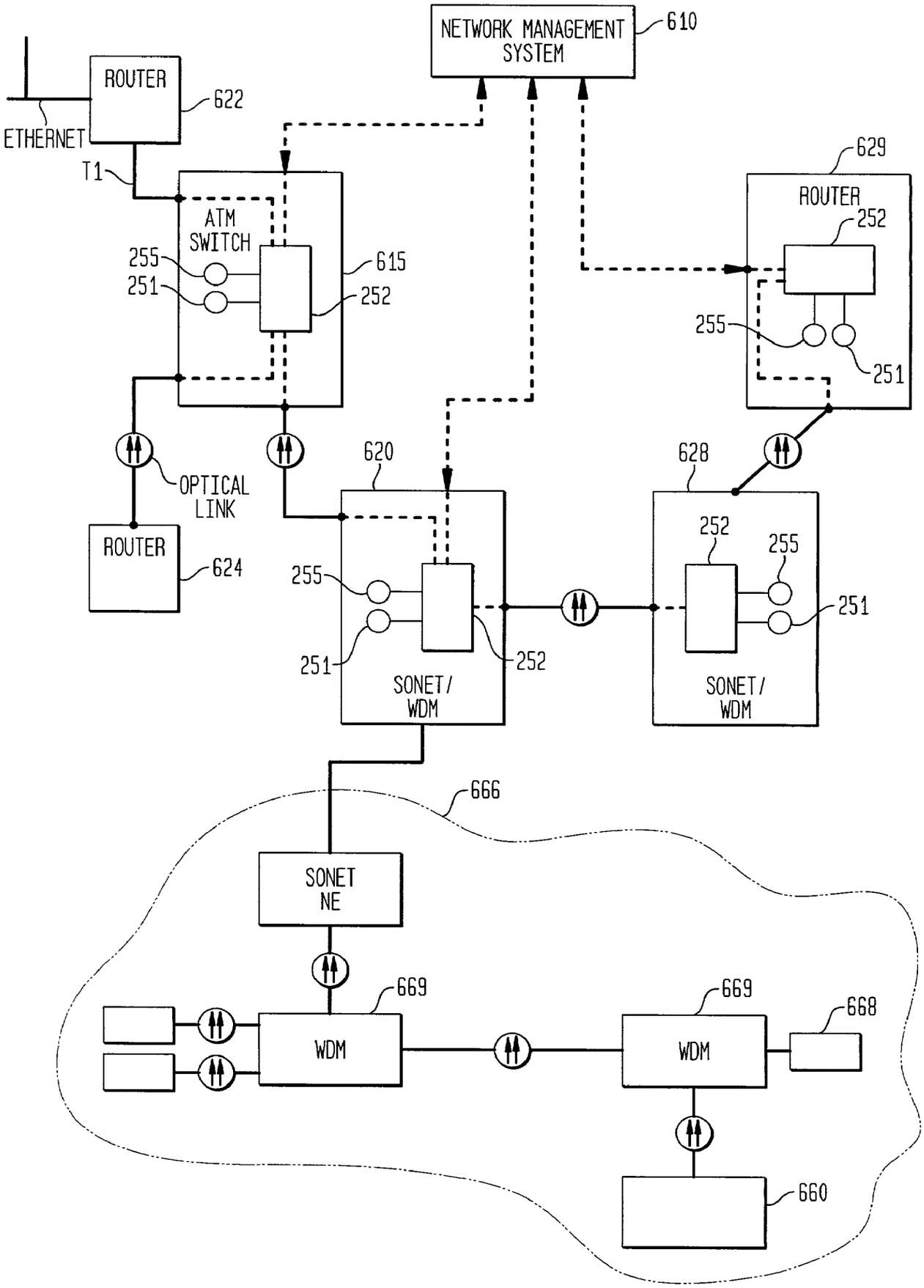

NETWORK ELEMENT RECEIVES TRIGGER EVENT
570
ALERT NMS OF UPCOMING CONFIGURATION UPDATE
572
NETWORK ELEMENT INITIATES FAR END PROTOCOL
515
PORTS RESPOND WITH CONNECTIVITY INFORMATION
520
NETWORK ELEMENTS TRANSMIT CONFIGURATION TO THE NMS
525

FIG. 6


NETWORK MANAGEMENT SYSTEM
610
ROUTER
622
ETHERNET
T1
ATM SWITCH
255
251
615
252
629
ROUTER
252
255
251
OPTICAL LINK
620
628
ROUTER
624
252
255
251
SONET/ WDM
SONET/ WDM
666
SONET NE
669
WDM
669
WDM
668
660